

CLAIMS:

1. An invasive device (17) that is intended to be introduced into an object (7) that is to be imaged by means of an MRI apparatus, which invasive device has a distal end (18) and is provided with an envelope (19) that is connected thereto, with a circuit (20) that is arranged at the area of the distal end, and also with an electrical connection conductor (21) that is connected to the circuit and extends through the envelope, characterized in that the connection conductor (21) comprises mutually separated segments (22-i), each of which is shorter than a predetermined value, and that the separation between the segments is realized by way of frequency-dependent separating elements (23-i) that constitute a conductor for LF currents and an isolator for RF alternating current.

2. An invasive device as claimed in claim 1, wherein the predetermined value for the length of the segments (22-i) is less than 120 cm.

3. An invasive device as claimed in claim 2, wherein the predetermined value for the length of the segments (22-i) is less than 24 cm.

4. An invasive device as claimed in claim 1, 2 or 3, wherein the separating elements are formed by self-inductances that do not contain a ferromagnetic material.

5. An invasive device as claimed in claim 4, wherein the self-inductances are formed in that the input core (25) and the output core (26) of the connection conductor (21) are wound so as to form bifilar coils.

6. An invasive device as claimed in one of the preceding claims, wherein the segments are formed by mutually twisted cores.

7. An invasive device as claimed in claim 4 or 5, wherein the self-inductances have a value of at the most 1 μ H.

8. An MRI apparatus that is arranged to co-operate with the invasive device as claimed in one of the preceding claims, characterized in that the apparatus is provided with a power supply unit (16) for applying electrical energy to the circuit (20) via the connection conductor (21), and with switching means for interrupting the supply of electrical energy to
5 the circuit as desired.

9. An MRI apparatus as claimed in claim 8, wherein the switching means are arranged to interrupt the supply of electrical energy to the circuit in response to an execution signal for the execution of an MRI exposure by means of the MRI apparatus.

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